Dana (C. L.)

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PSYCHRO-ÆSTHESIA (COLD SENSATIONS), AND PSYCHRO-ALGIA (COLD PAINS).*

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Introductory.—In a recently written article on the subject of paræsthesia † I have tried to show with some new emphasis the significance and relationship of this symptom. I venture to quote here some of my introductory paragraphs:

Paræsthesia is the name given to a number of subjective sensations, such as prickling, numbness, creeping sensations, tickling, and burning. It includes, in fact, nearly all the subjective sensations of the skin, except those of pain. It is a condition which is, therefore, extremely common, and in its mildest and most trivial character is much more often experienced than pain. When these sensations fix themselves in a certain locality, following the tract of the nerve, or fastening themselves upon the hand or foot, they take on a certain clinical picture, and deserve to have the name of a disease to just the same extent that a neuralgia does. Paræsthesia, in almost all cases, implies simply a lower grade

* Read before the New York Neurological Society, October 5, 1897.

† *Text-Book of Nervous Diseases*, fourth edition, p. 152.

of irritation of the nerve fibres than occurs in neuralgia, and is a kind of ghostly simulacrum of that disease. It very often precedes or accompanies attacks of pain. There is sometimes a tingling of the teeth or burning in the face which has a shadowy likeness to a toothache or trigeminal neuralgia. In the same way, one finds paræsthesias affecting the head, causing sensations of pressure and constriction, of burning, and general undefinable discomfort, which are entirely comparable to headaches.

In conditions of neurasthenia, paræsthesias of the head are more common even than the headaches. Paræsthesia sometimes follows the course of a nerve, as when one feels numbness of the hand if the ulnar is pressed upon at the elbow, or numbness in the foot when the sciatic is pressed upon, as when the legs are crossed.

There is also paræsthesia affecting one of the intercostal nerves or one of the crural nerves. On the other hand, paræsthesia may affect all four extremities, so that they feel entirely benumbed or prickling. There is, I repeat, a very close analogy between these groups of paræsthesias and neuralgias.

Paræsthesia affects single cerebro-spinal nerves just as neuralgia does, or it may be more generally distributed. In the latter case it affects most the feet and hands, and it is called *acro-paræsthesia*.

We meet then with:

1. Cephalic paræsthesias, comparable to diffuse headaches.

2. Local paræsthesias, comparable to local neuralgias.

3. Acro-paræsthesia, involving the feet or hands or both diffusely.

The cephalic paræsthesias are usually symptoms of neurasthenic or lithæmic states. Among eighty-five cases of local and acro-paræsthesiæ, not symptomatic of other and organic nerve disease, I found that there were of the local forms thirty-five cases, of acro-paræsthesia fifty cases. The local paræsthesias affected the arms in

eighteen cases, next the thigh and leg nerves in twenty cases, and, last, the trigeminal nerve in three cases.

The following analysis of eighty-five cases of paræsthesia occurring in my practice shows something of the cause and local development of the malady. The most frequent causes I find to be those concerned with occupation. Paræsthesia, in its general manifestations, may be considered almost an occupation neurosis. The list of cases may be put down as follows:

Occupation	15	Reflex irritation	2
Rheumatism	10	Hysteria	3
Alcoholism	6	Climacteric change	2
Infection	6	Various causes, such as neurasthenic state, puerperium, etc.	12
Senility	6		

Among 85 cases there were 36 males and 49 females:

	Males.	Females.	Total.
Hands and feet, or both, affected	6	11	17
Hands alone	6	12	18
Feet and legs	10	10	20
General sensations	..	4	4
Local	14	12	26
	36	49	85

The special nerves affected were:

Trigeminal	4	Sacral	1
Brachial	5	Sciatic	1
Ulnar	7	Plantar	11
Radial	1		35
Crural	4		
Peroneal	1		

The commoner form of paræsthesia is simply that of a sensation of prickling numbness or of a part being asleep. A more rare form is that accompanied by sensation of heat, and here the perverted feeling verges closely upon pain. In fact, the sensation of heat is often so

distressing that the patient considers it to all practical purposes a pain, although it may not correspond to the strictly technical psychological definition.

Psychro-æsthesia.—Among the rarer forms of paræsthesia are those of sensations of cold (psychro-æsthesia, from ψυχρός, cold). These sensations are felt quite apart from any actual lowering of the temperature of the body and without any objective evidences of vascular change in the affected part. Cold paræsthesias are not usually very distressing, and, although they are sometimes described as cold pains, they are not so akin to pain as are the heat sensations. The term psychro-æsthesia was first used by Pollaisson (*Lyon médical,* 1887). Later it was adopted by Silvio (*La Riforma medica,* February 17 and 18, 1896), and these authors have reported several cases of this kind. A case was also reported recently by Dr. L. G. Guthrie in *Brain,* spring and summer number, 1897. These two later articles have drawn renewed attention to this interesting symptom. A number of cases have occurred in my experience, and it seemed to me that it might be worth while to report a few of them in hopes that a fuller knowledge of the ætiology and pathology of the condition might be obtained.

Case I.—Dora C., aged fifty-three years; Ireland; washerwoman. The patient for three years had had constant tinnitus aurium, especially in the right ear, troubling her most at night. She had disease of both internal ears and chronic middle-ear catarrh, and both external canals were almost filled by soggy epithelial scales. Such was the report of her condition by Dr. A. M. Fanning. Her special complaint was of the cold sensation which she felt continuously in the forehead during all this period of three years. This annoyed her so much that she thought she could not get along

without a bandage over her forehead to keep it warm. The sensation was bilateral and involved the upper part of the forehead, like a brow headache; the skin was not cold or in any way changed to the sight or touch. She had some of the ordinary paræsthesias in the hands and feet of the prickling pins-and-needles kind. She was slightly nervous and slept badly. There was no dyspepsia, and the bowels were regular. She drank a good deal of tea—five or six cups a day. Examination showed no anæsthesia in any form and no signs of organic nervous disease.

Here was a case of cold paræsthesia of the forehead, associated with the ordinary paræsthesias which occur in middle-aged women who do a great deal of washing and drink a good deal of tea and, perhaps, alcohol.

Case II.—Francis L. L., aged fifty-six years; married; United States; mechanic. Family history good; no syphilis; habits temperate. His occupation compelled him to stand all day. The patient had some chronic bronchial trouble, and a year and a half ago he began to have paræsthesia of the legs below the knees. He said the trouble came on at two in the morning. Very soon after this he began to have sensations of coldness in the feet, which were always worse in the morning and lasted until the middle of the afternoon. During this time he felt as if standing upon ice, and he would try by heat and rubbing to get rid of the discomfort. Toward three o'clock the cold sensations changed to burning sensations, which lasted until night. He had some tremor, the pulse was rather rapid, and he showed signs of arterial sclerosis. The lungs, heart, and sexual organs were normal; digestion normal, and a physical examination showed absolutely no anæsthesia of the affected parts and no change in the vascularity. The reflexes were slightly exaggerated.

Here, again, we have a case of cold paræsthesia associated with heat and the ordinary prickling paræsthesia,

due probably to exposure, to defective venous circulation dependent on the man's habits of standing at his work, and probably to some rheumatic influences.

Case III.—Lewis S., aged forty-two years; married; butcher by occupation. Family and previous history negative. The patient was a healthy-looking man, who came to the clinic complaining of a sensation of coldness over the left thigh, especially marked on its anterior surface. This had lasted for six months, and had been gradually increasing. During the previous year he had had the same sensation in the right thigh, but this had disappeared. He denied syphilis and rheumatism. He drank, but not to excess. Examination showed absolutely no objective signs. Sensation was normal as to temperature, touch, and pain. The tongue was thickly coated, and there was some history of dyspepsia. On questioning him I found that in his occupation his thigh was constantly brought into contact with the edge of a table or counter; in other words, there was constant slight trauma. Dr. George R. Elliott, who examined his urine, concluded that there was a toxæmia from digestive disorder.

Case IV.—James G., aged sixty-two years; Ireland; married; occupation, clerk. The patient had suffered several years from bronchitis. For three weeks previous to being seen by me he had been suffering from some prickling paræsthesia of the fingers and in the lower extremities, and, at the same time, he had sensations of cold in these parts. He had dyspepsia, poor appetite, and constipation. Examination showed nothing objective in the hands and feet; the knee-jerks were present; there was no loss of power in the legs, and no anæsthesia over the affected parts. The sensations of cold were not due to actual vascular changes, but were subjective. The patient had no signs of tabes dorsalis.

Case V.—Jeremiah H., aged forty-nine years; married; Ireland; laborer. The patient had always been a healthy man and did not drink intoxicating liquors. For four successive winters he had suffered during the

whole of the cold weather from a sensation of coldness on the left leg, on the outer side just above the ankle. The affected area was sharply mapped out and measured about eight by four inches. It was not exactly painful, but gave him a great deal of annoyance and apprehension. The sensation disappeared as the summer weather came on. There were no other complaints. Examination showed nothing abnormal in touch, sensation, or pain, nor were there any objective changes to be seen in the part affected. A careful general examination was made without discovering any signs of organic disease. The patient described his symptoms vividly, and he was shown to my class as a case of cold paræsthesia, due to some irritation of the peripheral filaments of the external popliteal nerves.

Case VI.—Elizabeth J., aged forty-one years; Ireland; domestic. For about a year the patient had suffered from some pains in the right ankle, together with prickling sensations which ran down to the toes and up to the knees. The part from the knee down also felt constantly cold, and this cold sensation was associated with paræsthesia and prickling. The patient denied ever having had rheumatism, and also denied drinking and other bad habits. Her general health was good, and there were no objective symptoms connected with the part affected. The legs and feet were not tender, nor was there any redness or swelling. The knee-jerks were present, and there was no particular weakness of the extremities. The patient complained of the coldness, but perhaps even more of the prickling and pain.

Case VII. — Mr. C. C., aged forty-four years; United States; married; occupation, business. Family history good. The patient had had syphilis twenty years before, with secondary symptoms afterward. He was a well-nourished man and apparently in good health, except for the particular symptom complained of. This consisted of a sensation of intense coldness over the left hip on its lateral surface. The area was limited, and extended from the knee about two thirds of the way

up the thigh, mostly in the distribution of the external cutaneous nerve. He felt, he said, as though it had been painted with menthol. Warmth and exercise made it disappear for a time, but it returned. The part affected looked and felt to the touch perfectly normal. There was no anæsthesia of touch, pain, or temperature. A careful examination failed to reveal any trouble with the general bodily functions. The urine, digestion, heart, and lungs were normal. The pulse was 68. A further careful examination was made for tabes, but he showed no signs of this. There was no loss of knee-jerks; no eye symptoms; no bladder symptoms. The patient simply suffered from this continual sensation of coldness of the thigh.

The foregoing cases all occurred in patients in whom it was impossible to detect any absolute signs of organic disease of the central or peripheral nervous system. I have under observation now at the Montefiore Home two patients, one of whom is certainly suffering from syringomyelia in an advanced stage. The other probably has syringomyelia in an early stage. In both cases the patients complain of a sensation of coldness over the upper extremities. This sensation is felt from the hands up to the elbows, and is simply a cold feeling not associated with pain. Both patients have some slight sensory disturbances, such as thermo and pain anæsthesia, but these are not marked. They are not accompanied with sensations of prickling or of heat, or with the ordinary paræsthesias.

I have presented the foregoing clinical data very much condensed, for the reason that I know that my hearers are familiar with cases of this kind, and it does not seem to me necessary tc go into elaborate detail to illustrate further their character.

Analysis of Symptoms.—We have apparently two

classes of cold parasthesia. In one the symptom is not definitely limited to certain areas, but involves a whole extremity or all four extremities, and is associated with other parasthesias or with pain, and often with evidence of vasomotor disturbance.

The other class of cold parasthesia, psychro-æsthesia proper, is a disorder in which the sensation is quite an isolated one. The patient suffers from a feeling of cold exclusively, or almost so, having with it no prickling or numbness and not always any distinct pain, although it may amount to such. Furthermore, this form of parasthesia is limited to some special area, oftenest upon the thigh or buttock, but sometimes upon the calf or upon the face, and more or less closely following the distribution of a nerve.

The sensation is purely dermal and superficial. The mind refers it to the external world, so that it seems like an objective sensation similar to a touch. The patient feels as though some cold object were lying upon the part.

The sensation may disappear in warm weather or under exercise.

In some instances it is not so much a cold sensation as a cold pain or psychro-algia, and it may be obstinate and distressing, especially in quite elderly and senile persons.

Pathogeny.—The psychro-æsthesias of the first or mixed type are met with oftenest in mild forms of neuritis, such as may be caused by alcohol, or such as occurs in sciatica; they are also observed in locomotor ataxia. Among thirty-six cases carefully examined for this symptom by Dr. Joseph Fränkel, he found two persons who spontaneously complained of sensations passing up and

down the back like waves of cold, or affecting the legs in a similar manner. The symptom also occurs in the early stage of syringomyelia, as noted in my two cases. Mixed psychro-æsthesia is thus usually due to neuritic irritation, but may indicate a lesion higher up. Yet in practically all cases it means a lesion of the peripheral sensory neurone at one part or another of its course.*

The exciting causes are usually alcohol, lithæmia, exposure, and toxic agents that lead to nerve degeneration.

The purer types of cold sensation and cold pain are found more often in men, and almost always in persons over forty years. The trouble is caused sometimes by trauma, combined with exposure and a rheumatic tendency. A neuropathic constitution favors its development. Polaisson attributes some cases to varicose veins and to uterine disease.

So far as clinical experience and reading go, the cold parasthesia of syringomyelia is less intense and less sharply limited than those in the cases described. The patients have simply a sensation of general coldness, but not of the same sharp smarting coldness complained of by the patients whose history I have reported. The sensation is really subjective, is like that felt in diffuse neuritis, and is perhaps due to vasomotor disturbances.

Pathology.—There are both special cold and special heat nerves distributed to the skin and some of the mucous membranes. The fibres carrying these thermal impulses run in the cerebro-spinal nerves mingling with other sensory nerves. They separate again in the spinal cord, as shown in cases of syringomyelia and central cord lesions, but apparently run very diffusedly in the brain

* Dr. William H. Thomson reports a case of psychro-æsthesia due to a cerebral lesion. Such cases are unique.

axis and capsule, for local lesions here do not cause a differentiation of heat and cold anæsthesia. Hence (apart from psychical states) we must place the seat of the lesion in psychro-æsthesia practically almost always in the peripheral nerves. Its presence may, however, indicate a beginning syringomyelia or some other central cord lesion; and also, in rare cases, locomotor ataxia.

Treatment.—In most cases the treatment is that of an underlying neuritis or neuritic irritation. Antirheumatic drugs, nux vomica, exercise, and electricity are indicated. Locally, a liniment containing a little mustard oil is useful. Warm applications and friction sometimes give relief. In very obstinate cases the question of syringomyelia should be investigated. Where there are pain and evidences of decided neuritis, as in sciatica, rest is necessary.

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